

AESTHETIC FITNESS OF NEW ARCHITECTURAL DESIGN IN URBAN
HISTORICAL CONTEXT IN THE CITY OF SHIRAZ

HESAMADDIN SOTOUDEH

A thesis submitted in fulfilment of the
requirements for the award of the degree of
Doctor of Philosophy (Architecture)

Faculty of Built Environment
Universiti Teknologi Malaysia

FEBRUARY 2014

DEDICATION

This thesis is dedicated to my beloved wife Saeideh, who has put more than her share of life during my study, also to my father and mother because without their presence, support, and comprehension I would have not achieved my goal.

ACKNOWLEDGEMENT

First and foremost, all thanks to Allah (S.W.T) for the blessing and opportunity in helping me to get to this stage of this academic journey. Without His help I would not have achieved anything. I praise Him for all the supply He granted me in all areas that enabled me to successfully execute this research.

In preparing this thesis, I was in contact with many people, researchers, academicians, and practitioners. They have contributed towards my understanding and thoughts. In particular, I wish to express my sincere appreciation to my main thesis supervisor, Dr. Wan Mohd Zakri Wan Abdullah, for encouragement, guidance, critics and friendship. Without his continued support and interest, this thesis would not have been the same as presented here.

I wish to acknowledge Universiti Teknologi Malaysia for financial support through International Doctoral fellowship (IDF). I would also like to thank Department of Architecture, Faculty of Built Environment, Universiti Teknologi Malaysia for providing the resources, facilities and instruments needed for the study.

I am grateful to all my colleagues and close friends who have provided assistance at various occasions. Finally, I would like to express my sincere appreciation to my family.

ABSTRACT

The aim of this research was to establish the quality that contributed to the aesthetic fitness of new architectural design in urban historical context. Although the international organizations such as UNESCO and ICOMOS in dealing with urban historical area as world heritage site had clear policies and guidelines to be followed with the aim for preservation, they were basically generic and did not critically address the needs of those historic cities to be relevant in the face of modern development. Besides the usual conservation approach, new aspirations and activities necessitated new interventions and spatial qualities within the urban historical areas. As well-documented in the literature, the degree of the existing design approaches within the built environment fluctuated between two extremes, which were compatibility and contradictory. Therefore, identifying building physical attributes those contributed to their historical contextual fitness regardless of the design approach, and the responses toward their aesthetic qualities were paramount in this research. Methodologically, a case study of Shiraz Historical City was adopted as it allowed an in-depth inquiry into the subject matter. The investigation has led to the construction of the city's morphological development and recognition of the building components and characters that contributed to the quality and physical presence of the historic city. Visual preference survey and interview were carried out to gauge both laypersons' and experts' preferences of the building aesthetic values and contextual fitness of new building interventions within historical areas based on existing historical built environments through photographic identification technique. The focus of the investigation was on the formal, symbolic and expressive aspects of adopted design strategies. Initially, the obtained data were analyzed quantitatively utilizing such as correlation, variant and estimation methods and then triangulated with the qualitative data that were obtained through in-depth interview, and also with the established theories. There were four main findings with regards to the aesthetic fitness quality that need to be considered in designing new interventions in urban historical context, which were characteristics of contextual compatibility, presence of diversity, novelty, coherence and style. There were also three main implications that need to be observed in dealing with such built environment, especially in terms of theory, design framework and public participation in general. These findings and implications were discussed in relation to the condition of Shiraz Historical City and may only be applicable to historical cities with similar characteristics. The main contribution of this research to the body of knowledge, however, lies in the establishment of the more definitive design parameters in dealing with new design interventions that contribute to their aesthetic fitness in urban historical context.

ABSTRAK

Matlamat kajian adalah untuk menghasilkan kualiti yang menyumbang kepada kemantapan estetik bagi reka bentuk seni bina baru dalam konteks bandar bersejarah. Walaupun usaha pertubuhan antarabangsa seperti UNESCO dan ICOMOS dalam mengendalikan kawasan bandar bersejarah sebagai tapak warisan dunia mempunyai polisi dan garis panduan yang jelas untuk diikuti dengan tujuan untuk pemuliharaan, pada dasarnya ia bersifat umum dan tidak mengutarakan keperluan bandar bersejarah berkenaan untuk terus relevan dalam menghadapi pembangunan moden. Selain pendekatan pemuliharaan yang biasa, hasrat dan aktiviti baru memerlukan campur tangan dan kualiti ruang baru di dalam kawasan bandar bersejarah. Hasil literatur mendapati terdapat perbezaan pandangan terhadap tahap pendekatan reka bentuk sedia ada dalam alam bina, iaitu yang mempunyai keserasian dan bercanggah. Justeru kajian akan mengenal pasti sifat fizikal bangunan yang menyumbang kepada kemantapan konteks bersejarah tanpa mengira pendekatan reka bentuknya dan maklum balas terhadap kualiti estetikanya. Metodologi yang digunakan adalah kajian kes di mana Bandar Bersejarah Shiraz dipilih kerana ia membolehkan siasatan terperinci dilakukan terhadap perkara yang ingin dikaji. Kajian dilakukan terhadap pembangunan morfologi bandar dan pengenaltian komponen bangunan serta karakter yang menyumbang kepada kualiti dan fizikal bandar bersejarah pada hari ini. Soal-selidik dan temu bual digunakan untuk mengukur kecenderungan pendapat orang awam dan pakar-pakar terhadap nilai estetik bangunan dan kemantapan konteks bagi pembinaan bangunan baru di kawasan bersejarah berdasarkan alam bina bersejarah sedia ada di mana kedua-dua teknik tersebut melibatkan penggunaan pengenaltian foto. Fokus kajian adalah terhadap aspek formal, simbolik dan ekspresif yang diguna dalam strategi reka bentuk. Justeru data yang diperoleh akan di analisa secara kuantitatif terlebih dahulu, seperti pendekatan korelasi, variasi dan anggaran, kemudian ditriangulasikan bersama-sama data kualitatif yang diperoleh menerusi temu bual mendalam dan teori sedia ada. Penemuan menunjukkan, empat faktor berkaitan dengan kualiti kemantapan estetik perlu diambil kira di dalam mereka bentuk binaan baru di dalam konteks perbandaran bersejarah iaitu, ciri-ciri kesesuaian konteks, kehadiran kepelbagaian, sesuatu yang baru, kepaduan dan gaya. Implikasi kajian pula dapat dibahagikan kepada tiga perkara apabila berurusan dengan alam bina iaitu, terutamanya dari aspek teori, rangka kerja reka bentuk dan penglibatan awam secara am. Penemuan dan implikasi yang dibincangkan adalah berhubung dengan keadaan Bandar Bersejarah Shiraz dan hanya sesuai diaplikasikan terhadap bandar bersejarah dengan ciri-ciri yang sama. Sumbangan utama kajian adalah kepada bidang pengetahuan, namun ia bergantung pada pembentukan parameter reka bentuk yang lebih jelas dalam berurusan dengan campur tangan reka bentuk baru yang menyumbang kepada kemantapan estetik dalam konteks sejarah perbandaran.

TABLE OF CONTENTS

CHAPTER	TITLE	PAGE
	DECLARATION	ii
	DEDICATION	iii
	ACKNOWLEDGEMENT	iv
	ABSTRACT	v
	ABSTRAK	vi
	TABLE OF CONTENTS	vii
	LIST OF TABLES	xiii
	LIST OF FIGURES	xxii
	LIST OF ABBREVIATION	xxv
	LIST OF APPENDICES	xxvi
1	INTRODUCTION	1
	1.0 Introduction	1
	1.1 Background to the Problem	3
	1.1.1 Global Concern	3
	1.1.1.1 New Developments in Historical Context	3
	1.1.2 Local Issues	8
	1.1.3 Research Gap	10
	1.2. A Research Agenda	12
	1.2.1. Scenario	12
	1.2.2. Research Aim	13
	1.2.3. Objectives of the study	13
	1.2.4. Research Questions	13
	1.3 Methodology	14

1.4 The Case Study	18
1.5 Significance of the Study	19
1.6 Limitation of this research	20
1.7 Definition of Key Terms	21
1.8 Structure of the Study	22
2 THEORETICAL AND CONCEPTUAL FRAMEWORK	25
2.0 Introduction	25
2.1 New Design in Historical Context	26
2.2 Historical Preservation and New Design	27
2.2.1 Historical Context as Cultural Heritage	29
2.2.2 World Lead Organization Recommendations and Guidelines	30
2.3 Contextualism	35
2.3.1 Contextualism in Architecture: Brief History	37
2.3.2 Component of Contextualism in Architecture	39
2.3.2.1 Reflecting the Character of Place	40
2.3.2.2. Expressing Formal Association	41
2.3.3 Design Strategies in Historical Context	42
2.3.4 Building Characteristics and Conceptual Framework for Measuring Contextual Design	52
2.3.5 Summary	54
2.4 Aesthetic Control of New Design	55
2.4.1 Aesthetic Response	58
2.4.2 Appraisal of Aesthetic Quality of City	63
2.4.3 User Participation	65
2.4.4 Difference of Preference among Subgroups of People	66
2.4.5 Environmental Preference Research Models and their Analysis	68
2.4.5.1 Exploratory Model	69
2.4.5.2 Predictive Model	71
2.4.5.3 Experimental Model	72
2.4.6 Aesthetic Components	73
2.4.6.1 The Formal /Aesthetic aspects	73

2.4.6.2 The symbolic Aspects	75
2.4.6.3 Expressive Properties	77
2.5 Perceptual, Cognitive Theories' Application to the Aesthetic Fitness	78
2.6 Theoretical Framework of Research	85
2.7 Conclusion	88
3 RESEARCH DESIGN AND METHODOLOGY	90
3.0 Introduction	90
3.1 Scope of Research	91
3.2 Choice of Methodology	91
3.2.1 Review of Previous Research	92
3.2.1.1 Environmental Preference Research	92
3.2.1.2 Previous Environmental Preference Methods and their Technique	93
3.2.1.3 Contextual Compatibility Research	96
3.2.1.4 Environmental Instruments	98
3.3 Research Type	98
3.4 Methodology Adopted for this Research	99
3.5 Research Techniques	101
3.5.1 Quantitative Technique	102
3.5.1.1 Questionnaire Design	102
3.5.1.2 Research variables	103
3.5.1.3 Pilot Survey	105
3.5.1.4 Normality test	106
3.5.1.5 Reliability Test	107
3.5.1.6 The Survey Location	108
3.5.1.7 Respondents Sample Selection	109
3.5.1.8 Quantitative Data Analysis	114
3.5.1.9 Presentation of the Environment	117
3.5.1.10 Categorization of Variables	118
3.5.2 Qualitative techniques	120
3.5.2.1 Semi-Structured Interview	121
3.5.2.2 Structure of Interview	122

3.5.2.3 Interview Sampling	124
3.5.2.4 Qualitative Data Analysis	125
3.5.2.5 Procedure of Content Analysis	127
3.5.2.6 Descriptors of Rank Building Scenes	128
3.5.2.7 Criteria for Evaluating Most and Least Preferred Design	129
3.5.2.8 Reliability and Validity of Content Analysis	133
3.5.3 Photo-Documentation	134
3.6 Triangulation Method	140
3.7 Conclusion	142
4 THE STUDY AREA	144
4.0 Introduction	144
4.1 General Information about Shiraz	144
4.2 Transformations during History	147
4.2.1 Shiraz before the 18th Century	148
4.2.2 Shiraz after the 18th Century	149
4.3 Modernization in Shiraz	152
4.4 Conservation and Development Policies of Historic Areas in Iran	155
4.5 New Buildings among Old Structure	157
4.6 Current Architectural Intervention Policies and Design Regulations for New Buildings in Shiraz Conservation Plan	160
4.7 Location of the Study Area	163
4.8 Street and Building Characteristics	167
4.9 Facade Characteristics	168
4.10 Conclusion	169
5 DATA ANALYSIS AND DISCUSSION	170
5.0 Introduction	170
5.1 Description of Subjects' Background	172
5.2 Preference Rating of most Appealing Relationship between Building and its Surrounding	174
5.2.1 Questionnaire Data	174
5.2.2 Qualitative Data	180

5.2.3 Discussion and Findings of most most Appealing Relationship between Building and its Surrounding	185
5.3 Preference of Contextual Attributes	170
5.3.1 Quantitative Data	187
5.3.1.1 Means and Standard Deviations of Six Groups of Building Components	188
5.3.1.2 Similarity and Differences between Expert Non-expert	189
5.3.1.3 Most Preferred Contextual Attributes	191
5.3.1.4 Most preferred Attributes between both Groups	196
5.3.1.5 Relationship between Design Strategy and Contextual Attributes	198
5.3.2 Qualitative Data	202
5.3.3 Discussion and Findings of Contextual compatibility	208
5.4 Analysis of Aesthetic Responses	213
5.4.1 Quantitative Data	213
5.4.1.1 Differences between Aesthetic Evaluation of Respondents for each Design Strategy	217
5.4.1.2 Summary of ANOVA Test	225
5.4.1.3 Relation between Environmental Aesthetic Responses and Contextual Attributes	227
5.4.2 Qualitative Data	231
5.4.3 Discussion and Findings of Aesthetic Responses	234
5.5 Conclusion	239
6 CONCLUSION	244
6.0 Introduction	244
6.1 Research Agenda	244
6.2 Main Research Findings	248
6.2.1 Physical Characteristics Contribute to the Contextual Design	249
6.2.2 Aesthetic Responses to the new Intervention within Urban Historical Context	252

6.2.3 Relation between Aesthetic Responses and Physical Characteristics	254
6.2.4 Qualities of Aesthetic Fitness Design in Urban Historical Context	255
6.3 Research Implications	259
6.3.1 Theoretical Implication	259
6.3.2 Developing Framework for Design Review in Urban Historical Context	260
6.3.3 Public Participation and Design Quality	262
6.4 Contributions of Research	263
6.5 Recommendations for Further Research	265
6.6 Conclusion	266
REFERENCES	268
APPENDICES A- D	287-298

LIST OF TABLES

TABLE NO.	TITLE	PAGE
2.1	Various aspects of aesthetic evaluation that were identified in previous researches	62
2.2	The preference matrix of evolutionary theory of kaplan	79
3.1	Summary of quantitative methods and strategies adopted in environmental research	96
3.2	Reliability statistics for experts in pilot survey	106
3.3	Reliability statistics for non-experts in pilot survey	106
3.4	Reliability test for experts questionnaires	107
3.5	Reliability test for non-experts questionnaires	108
3.6	Table for determining sample size from a given population based on Krejcie and Morgan (1970)	111
3.7	Required sample size for various sampling errors at 95% confidence level (simple random sampling)	113
3.8	Sample sizes required based on population homogeneity and desired accuracy	113
3.9	Attributes of mass and space elements	118
3.10	Result of factor analysis	119
3.11	Factor analysis grouping for facade style	120
3.12	Descriptors utilized by the experts and non-experts in their appraisals (with frequency of mention)	131
5.1	Proficiency of experts group	172
5.2	Education levels of both groups	172
5.3	Characteristics of gender for experts and non-experts	173

5.4	Age groups of experts and non-experts	173
5.5	Distribution of experts and non-experts in gender, educational level and age for interview	174
5.6	Best building score in both groups	175
5.7	Best strategy score in both groups	175
5.8	Preference ratings for each building scene among two groups	176
5.9	Preference ratings for each design strategy among two groups	178
5.10	Independent sample t-test results for four strategies between experts and non-expert	179
5.11	The most appealing buildings among both groups (with frequency of mention)	180
5.12	The least appealing building between both groups (with frequency of mention)	183
5.13	Preference of expert and non-experts on most preferred design strategy	185
5.14	Preference ratings, mean and standard deviation for 6 groups of building elements	188
5.15	Independent sample t-test for six groups of building features between non-expert and experts	189
5.16	Mean and standard deviation for the group of overall organization	192
5.17	Mean and standard deviation for the group of sensory elements	192
5.18	Mean and standard deviation for the group of mass elements	193
5.19	Mean and standard deviation for the group of space elements	194
5.20	Mean and standard deviation for the group of fenestration elements'	195

5.21	Mean and standard deviation for the group of symbolic elements	195
5.22	Mean and standard deviation for most preferred attributes	198
5.23	The correlation results between invention within style design strategy and six groups of building characters for experts	198
5.24	The degree of contextual preference belonging to the each design strategy among experts based on mean rating	200
5.25	The correlation results between four design strategies and seven groups of contextual properties for non-expert	201
5.26	The degree of contextual preference belonging to the each design strategy among non-experts based on mean rating	202
5.27	Most preferred design among both groups and more than five times mentioned	203
5.28	Rank of subcategorized factors according to frequency of mention	205
5.29	Preference of expert and non-experts on formal variables of most appealing building	210
5.30	Preference of expert and non-experts on symbolic variables of most appealing building	212
5.31	Independent sample t-test results for 9 aesthetic evaluative response among experts and non-expert	214
5.32	Mean and standard deviations: four design strategy and three aesthetic variables	218
5.33	Anova results: four design strategy and three aesthetic variables	219
5.34	Mean and standard deviations: four design strategy and five aesthetic variables	220
5.35	Anova results: four design strategy and five aesthetic variables	224

5.36	Mean and standard deviations: four design strategy and three visual congruity aesthetic variables	223
5.37	Anova results: four design strategy and three aesthetic visual congruity variables	224
5.38	Results of anova in various aspects of aesthetic response between experts and non-experts	226
5.39	Result of correlation test between environmental aesthetic factors and contextual aspects for both groups of respondents	227
5.40	Result of correlation test between environmental aesthetic and attributes of mass element for both groups of respondents	232
5.41	Result of correlation test between factors of environmental aesthetic and attributes of overall organization for both groups of respondents	230
5.42	Result of correlation test between factors of environmental aesthetic and attributes of sensory elements for both groups of respondents	233
5.43	Most corresponding descriptors of aesthetic among both groups and more than five times mentioned	232
5.44	Summary of results for both groups of respondents in case of Shiraz historical context	242

LIST OF FIGURES

FIGURE NO.	TITLE	PAGE
1.1	Visual confusion in historical context of shiraz, A: facade confusion – B: mass and facade confusion	10
1.2	Structure of the thesis	24
2.1	Im Pei's glass pyramids, 1993	37
2.2	Literal replication strategy, kennedy- warren apartments; a. original structure 1929, b.addition hartman cox 2004	48
2.3	Invention within style, reichstag, berlin, foster's glass dome has been praised as differentiation the new german parliament from its prewar predecessor while offering a degree of continuity	49
2.4	Abstract references, west end of the via conciliazione, new and historic classicizing facades linea boulevard conceived according to modernist urbanism and scaled to the automobile	50
2.5	Intentional opposition, brooklyn museum 1895, with new entrance 2004.oppositional approaches exaggerating the difference between new and old can result in the disfigurement of historic landmarks	51
2.6	Groat's conceptual framework (1986)	53
2.7	Nasar's aesthetic response model to building attributes	83
2.8	Theoretical conceptual framework (groat, 1992; Nasar, 1997; kaplan 1989, semes, 2009, Ries and Lay, 2011)	87
3.1	Sampling area of this research in historical context of shiraz	110

3.2	Literal replication group	137
3.3	Invention within style group	137
3.4	Abstract references group	137
3.5	Intentional opposition group	138
3.6	Position of each group in the range between replication and contrast	138
3.7	Literal replication group	139
3.8	Invention within style group	139
3.9	Abstract references group	140
3.10	Intentional Opposition group	140
3.11	Research design diagram	143
4.1	Location of fars state and shiraz in map	145
4.2	Location of old context of Shiraz plan, B: The plan of historical context of Shiraz	146
4.3	Physical structure evolution in shiraz,	149
4.4	Shiraz map in zand period (18 th century)	151
4.5	Proposed master plan for shiraz in 1966	154
4.6	Visual confusion in new construction	158
4.7	Height differences between the new building and historical surrounding and its location in plan of Shiraz historical context	159
4.8	Differences of material and facade composition between the new building and historical building and its location in plan of Shiraz historical context	160
4.9	Inconsistencies between the new building and historic surroundings that destroy visual harmony of context	163
4.10	Situation of three main areas of shiraz historical context	163
4.11	Shahecheragh monument, district 2	162
4.12	Some image of district 1	164
4.13	Image of district 3	165
4.14	A part of district 2 that is under urban regeneration	166
4.15	Situation of various architectural intervention in Shiraz historical context	166

4.16	Intentional interference with municipal for urban regeneration in the study area	167
4.17	Building character in shiraz historical context	168
4.18	Some elements of the facade in shiraz historical context	168
4.19	Facade elements of historical building in shiraz	169
5.1	Represents the most preferred building scenes with the highest rate between experts and non-experts	177
5.2	Represents the least preferred building scenes with the lowest rate between experts and non-experts	178
5.3	Experts preference of the most appealing building to design in historical context of shiraz	181
5.4	Non-experts preference of the most appealing building to design in historical context of shiraz	182
5.5	Experts preference of the least appealing building to design in historical context of shiraz	184
5.6	Non-experts preference of the least appealing building to design in historical context of shiraz	184
6.1	Contextual relationships of environmental characters and evaluative responses	246
6.2	Formal and symbolic aspects of physical characters that contribute to the contextual design	252
6.3	Aesthetic responses that contribute to the aesthetic	253
6.4	Relations of two main affective factors on quality of new design in historical context of Shiraz	258

LIST OF ABBREVIATION

UNESCO	-	United Nations Educational, Scientific and Cultural Organization
ICOMOS	-	International Charter for the Conservation and Restoration of Monuments and Sites
EH	-	Historic Building and Monuments Commission for England
CABE	-	Commission for Architecture and the Built Environment
NSWH	-	New South Wales Heritage Office
HOI	-	Heritage organization of Iran
NJP	-	Naghshe Jahan Pars Consultants
NPS	-	An agency of the interior department responsible for the national parks in United States.

LIST OF APPENDICES

APPENDIX	TITLE	PAGE
A	Structure of Groat's conceptual framework	286
B	Questionnaire form	287
C	Interview Structure	294
D	Results of Normality test	297

CHAPTER 1

INTRODUCTION

1.0 Introduction

This study investigates aesthetic quality of new architectural design that contributes to the sympathetic fitness in historical context. It addresses various aspects of environmental perception and aesthetic response in evaluating the appreciation of fitness in the historical context. Initially, the intention is to identify significant attributes of aesthetic properties that are essential to the achievement of aesthetic fitness. In this research “aesthetic fitness” is considered as a key concept that allows historical contexts and new additions to work cohesively, respecting and promoting each other’s. It is imperative that feasible design guideline being established to promote the use of appropriate design elements for preservation of historical contexts.

The appearance and relationships of new buildings with their surrounding have been a serious design problem (Brolin, 1980; Groat, 1983; Eleishe, 1994; Wolford, 2005; Semes, 2009) for the last decades which has become a serious issue in many places. This design problem becomes more sensitive when context of new designs is historic and considers as built heritage. This issue discusses the essence of architectural design, new methods of buildings, and the new functions that affect the built environment by creating visual forms that should coexist with their historical

context. In the historical area, the main concern is to protect built heritage against various threats. Therefore, it is essential to review the theory of historic preservation and relevant guidelines and recommendations by leading global organizations for the new addition in the aforementioned environment in order to preserve urban cultural heritage. In addition, the importance of quality infill design has been widely confirmed as essential to preserve the sense of place of a historic district (Gorski and Cuvalo, 2009). This research investigates aesthetic quality of the new design that constitutes a deeply felt human good and consequently plays a very important role in sense of place in urban historical context.

During the development of historical settings, different stakeholders, developers and owners, government officials, and designers such as architects, planners, and landscape architects exert their influence according to their particular specialization and interest. Operating within their scope of interest, rules and regulations or professional expertise, each decision maker perceives the historic parts of city and its future development differently. The main purposes of this research is to investigate commonalities and differences between the perception of different groups like architects, conservationists, urban designers, urban planners as expert, and lay public as non-expert about the issue of aesthetic fitness. It focuses on their attitude towards various aspects of design quality of new construction in the historical context. Therefore, this study presents a historical review of the issue of contextualism in architecture. It is followed by an illustration of the various contextual design approaches. This research also reviews selected problems in the cities as a result of the divergent attitudes and roles of the different players involved in the urban development process. Subsequently, people's environmental perceptions and aesthetic responses, which were based on previous studies that had significant influences on judgments of community satisfaction, are discussed in the light of major perceptual and aesthetic theories. The main goal of these theoretical overviews is to formulate the basis for the following investigation of the issue of aesthetic fitness as perceived by various groups. This study also examines the concerns of aesthetic fitness of new infill design and its contribution to the two main dimensions of aesthetic; cognitive and affective. In additions, in order to find relationships of aesthetic responses and physical attributes of the environments, this

research presents the interaction of formal and symbolic associations between aesthetic dimensions of new buildings and their surroundings. The result of this examination forms the basis for the proposed research methodology and subsequent discussion of this research.

1.1 Background to the Problem

New additions in urban historical context implicate various responses. It may give different experiences and perception to different persons who regard each built environment as a notable place. One critical aspect in dealing with such intervention is the idea of compatibility. Whether it is replication or contradiction, the aim is to achieve aesthetic fitness.

1.1.1 Global Concern

1.1.1.1 New Developments in Historical Context

Cities' growth and the accompanying building activities are inevitable for their development and liveability. During this development, historic core and historic urban sites also need to be developed as an integral part of cities. Cultural built heritage should be considered in its full scope and complexity in the process of planning and ordering the dynamics of urban growth. Although new developments are inevitable, it is still possible to learn from historical environments to prevent the creation of new developments that contribute to urban sprawl, placelessness, and the loss of cultural identity (Lekagual, 2002). Cultural built heritage should begin to impose itself as a major component to be considered in the process of evolution and transformation of cities (Rodrigues and Lay, 2012). Therefore, any development in

historical settings is associated with historic preservation and respect to the values of heritage. In the preservation field, additions to historic environments as a part of development have always been a debatable issue (Groat, 1986; Tyler, 2009; Ames and Wagner, 2009). There have been many discussions about the proper way to approach a historical context when it is in need of expansion in order to create more usable space for a new or expanding use (Torres, 2009).

In recent decades, with the increased awareness of historic preservation, came an increased awareness of the need to be able to design new buildings in historical context. Thus, two issues are raised within this necessity. The first one is found in the lack of control and concern for aesthetic quality and visual appearance of historical cities, and lack of clear guidelines in a lot of countries of the world (Alderson, 2006, Rodregues *et al.*, 2012; Hanachi and Fadaei Nezhad, 2011), particularly in Third world countries like Iran (Hanachi and Fadaei Nezhad, 2011). The second one is the lack of examination of the intervening variables that affect the perception of aesthetic fitness for new design in this area (Al-Izzi, 1989; Eleishe, 1994; CABE, 2001; Vosmek, 2008; Rodregues and Lay, 2012).

In the context of historical cities, according to Rodregues *et al.*, (2012:1) the regulatory mechanisms of projects are directed more to define “the constructive potential than the aesthetic quality of new buildings, and compatibility with the pre-existing structures”. It seems that shortage of urban law for preservation of built heritage, also lack of regulatory mechanisms and control of urban aesthetics, end up in the destruction of local cultural heritage and growing disqualification of the landscape and visual appearance of historic cities (Torres, 2009; Rodregues *et al.*, 2012; Hanachi and Fadaei Nezhad, 2011). Therefore, for preventing destruction of local cultural heritage, it is necessary to establish a regulatory framework to control aesthetic quality of new intervention within historical context. This can be obtained through exploring of people perception and preferences in dealing with new infill design in historical context and their evaluation with respect to the aesthetic response. A comprehensive study must consider all aspects of environmental aesthetic and physical characteristics that influence in peoples’ evaluation of new design in historical context. Based on the previous researches, there are two kinds of

aesthetic responses, tangible and intangible. Tangible responses refer to physical characteristics of environment and intangible responses relate to the expressive evaluation of human affection.

Some organizations like UNESCO and ICOMOS have some recommendations and guidelines for intervention in historical context as cultural heritages to conserve and prevent damage to them. According to Torres (2009: 5) “usually these guidelines or recommendations for adding to a historic area are not clear guidelines or recommendations. None of these regulations give suggestions on what should be the key elements to address, more than general indications of mass, scale and materials, in order to design”. In addition, according to Alderson (2006:26), “preservation standards and lead organization policies supported by a regulatory-enforcement process can protect historic buildings, encourage sensitivity to historical contexts, and allow for new contributions but cannot make a less-creative architect more creative or be counted on to bring about outstanding design solutions”. Alderson believes that preservation standards alone encourage, but cannot cause, either preservation or design excellence in historic-context response. Also in UNESCO’s conference on “World Heritage and Contemporary Architecture - Managing the Historic Urban Landscape” which was held in 2005 Australia, it was widely discussed “the criteria and guidelines for conservation management of the historic urban landscape are urgently needed and that existing charters and recommendations in this regard are no longer sufficient” (UNESCO’ newsletter, 2005: 1). Therefore, a notable gap could be seen where new design parameters are necessary in order to form a guideline for new intervention in urban historical context.

In discourses of new construction among historical context, one of the main treatment that suggested by professionals (Groat, 1988; Eleishe, 1994; Vosmek, 2008, Torres, 2009) and lead organization (UNESCO, 2004; ICOMOS, 2011) is the issue of compatibility. Compatibility of new building with its context has been widely discussed in the theory of contextualism. However, the centres of the discussion were varied in terms of formal patterns till climate patterns. According to Vosmek (2008), the most contextual issues in the previous researches were

considered base on formal components of buildings more than symbolic aspects of environment. Brolin (1980), Groat (1983), Eleishe (1994), and Torres (2009) in their researches have been emphasized only in the assessment of formal relationship of the new buildings and their surroundings as a contextual relationship. While, Lang (1987) believed that in the environmental assessment process, historic buildings and historical districts tend to be perceived positively and should be considered in both aspects of formal and symbolic together. Low (1992: 165) believed that a “symbolic relationship formed by people giving culturally shared emotional/affective meanings to a particular space or piece of land that provides the basis for the individual’s and groups’ understanding of and relation to the environment”. Therefore, in order to assess any contextual relationships, it is vital to consider both aspects of environmental variables instead of only formal variables.

Another issue involves in dealing with new construction in urban historical context is debate of regulatory mechanisms and control of urban aesthetics (Torres, 2009; Rodregues *et al.*, 2012; Hanachi and Fadaei Nezhad, 2011). Decision makers and design professionals attempt to develop and introduce new approaches to create new construction schemes in such a way that they can support the older surroundings, particularly those located within the historic area. Design control is one of the major ways for protection of the built heritage against the destructive or disruptive issues. Design controls attempt to have a control over individuals’ acts for good of the community. Throughout the world design review, as a part of design control, is particularly employed in the large cities (Da Luz Reis and Lay, 2010). In order to achieve success, all design controls whether administrative or discretionary should be based on proper appearance guidelines which are obtainable by research (Nasar, 1997). For this reason, study of different aspects of the built environment, specially the built heritage and new addition to this context, play a significance role in control of aesthetic quality of historical context to form a comprehensive guideline for further developments.

It has been shown that peoples’ appreciation of their environment including aesthetic appreciation is affected seriously by several environmental factors. According to the literature reviews there is no information between these factors and

aesthetic relationship of new construction in a historical context. In the Aesthetic assessment of new construction in historical context, it should be considered the relationship of evaluative responses with physical characters. According to Lang (1987) in the evaluative response, there are probabilistic relationships between perception and cognition with the physical characteristics of built environment and each other as well. The aesthetic experience seems to elicit from the observer the combined exercise of human capacities of perception, cognition, and affection (Nasar, 1997; Chon, 2009). Within the aesthetic experience these capacities appear to be integrated: perception makes possible cognition; cognition influences perception; emotional states indistinctly affect perception and cognition; and both perception and cognition give rise to different emotional reactions in the observer (Olascoaga, 2003). Chon (2009) considered two broad components in evaluative response to the aesthetic as ‘perceptual/cognitive’ and ‘emotional/affective’ properties that related to the two types of environmental variables including formal and symbolic. Furthermore, in earlier studies conducted by Kaplan (1987), Nasar (1997), and Gifford *et al.*, (2002) about aesthetic evaluation, some expressive properties had been identified as the intangible aesthetic responses for evaluating built and natural environments. These studies identified some ‘emotional/affective’ variables such as expression, pleasantness, interestingness, friendliness, exciting; and some ‘perceptual/cognitive’ variables such as complexity, simplicity, meaningfulness, coherence, novelty, familiarity and experience. Affections of these variables in evaluating aesthetic fitness are understood easier for designers to communicate with their clients as well as the inhabitants of the historical context. Therefore, for establishing aesthetic fitness of new building and its historical neighbours, this research considers comprehensive relationship of both aspects of environmental variables: formal and symbolic and their association in perceptual/cognitive and emotional/affective responses of aesthetic evaluation.

REFERENCES

- Abdi, M. A. & Namin, S. M. (2008). Spatial Planning as an Approach to Achieve Sustainable Development in Historic Cities. *World Academy of Science, Engineering and Technology*. 22, 215-220.
- Abercrombie, S. (1986). *Architecture as Art*. New York: Van Nostrand Reinhold Company.
- Abu-Obeid, N. Malkawi, F. K., Nassar, K. & Al-Eideh, B. (2009). Cognitive-Mathematical Approaches for Evaluating Architectural Contextual. *Nexus Network Journal*. 11 (2), 163-181.
- Ahmad, Y. (2006). The Scope and Definitions of Heritage: from Tangible to Intangible. *International Journal of Heritage Studies*. 12, 292-300.
- Al-Izzi, Z. H. A. (1989). *Contextualism: Fitting New Buildings to their Surroundings*. Doctor of Philosophy, University of Pennsylvania.
- Alexander, C. (1982). *The Timeless Way of Building*. New York: Oxford.
- Alderson, C. R. (2006). Responding to Context: Changing Perspectives on Appropriate Change in Historic Settings. *APT Bulletin*, 37 (4). 22-33.
- Al-Kodmany, K. (2002). Online Tools for Public Participation. *Government Information Quarterly*, 18, 329-341.
- Altman, I. & Rogoff, B. (1987). World Views in Psychology: Trait, Interactional, Organismic, and Transactional Perspectives. *Handbook of Environmental Psychology*, 1, 7-40.
- Ames, D. L. & Wagner, R. D. (2009). *Design and Historic Preservation*. Delaware. University of Delaware Press.
- Appleton, J. (1996). *The Experience of Landscape*. UK, John Wiley.
- Appleyard, D. (1976). *Livable Urban Streets: Managing Auto Traffic in Neighborhoods*. Washington DC, U.S.: Government Printing Office.
- Araoz, G. F. (2008). World-Heritage Historic Urban Landscapes: Defining and Protecting Authenticity. *APT Bulletin*, 39 (5). 33-37.

- Arberry, A. J. (1960). *Shiraz; Persian City of Saints and Poets*. Oklahoma. University of Oklahoma Press.
- Ardalan, N. & Bakhtiar, L. (2000). *Sense of Unity; The Sufi Tradition in Persian Architecture*. (9th ed.) Chicago. University of Chicago Press.
- Aref, F. (2010a). Barriers to Community Capacity Building for Tourism Development in Communities in Shiraz, Iran. *Journal of Sustainable Tourism*, 19, 347-359.
- Aref, F. (2010b). Non-Expert' Attitudes Towards Tourism Impacts: A Case Study of Shiraz, Iran. *Tourism Analysis*, 15, 253-261.
- Aref, F. (2011). Capacity Development of Community Organizations for Tourism Development and Planning in Shiraz, Iran. *Journal of Human Ecology*, 33, 197-201.
- Arnheim, R. (1977). *The Dynamics of Architectural Form: Based on the 1975 Mary Duke Biddle Lectures at the Cooper Union*. California. Univ of California Press.
- Ataov, A. (1998). *Children's Perception of Urban Waterfronts and their Responses to them—Emotional Reactions and Perceived Opportunities for Activity*. Doctoral Dissertation. Ohio State University.
- Babbie, E. R. (2012). *The Practice of Social Research*. Belmont. Wadsworth Publishing Company.
- Baker, T. L. & Risley, A. J. (1994). *Doing Social Research*. New York. McGraw-Hill.
- Bazrgar, M. R. (2003). *Urbanism and the Main Structure of City*. Vol. 1. Shiraz: Kooshamehr Press.
- Bechtel, R. B., Marans, R. W. & Michelson, W. E. (1987). *Methods in Environmental and Behavioral Research*. New York. Van Nostrand Reinhold Co.
- Bell, P. A., Fisher, J., Baum, A. & Greene, T. E. (1984). *Environmental Psychology*. New York . Holt, Rinehart, and Winston.
- Bentley, I., Alcock, A., Murrain, P., McGlynn, S. & Smith, G. (1985). *Responsive Environments: A Manual for Designers*. London. Architectural Press London.

- Berlyne, D. (1971). *The Psychology of Aesthetic Behavior*. Pennsylvania. Department of Art Education, Pennsylvania State University.
- Bilgic, U. (2004). *New Building in Historical Settlement as an Urban Conservation Problem: A Case Study in Tarsus*. Doctoral Dissertation. Middle East Technical University.
- Bishop, R. (1982). *The Perception and Importance of Time in Architecture*. Doctoral Dissertation. University of Surrey.
- Boud, D., Cohen, R. & Walker, D. (1993). Introduction: Understanding Learning from Experience. *Using Experience for Learning*, 1-17.
- Boussaa, D. (2010). Urban Conservation and Sustainability: Cases from Historic Cities in the Gulf and North Africa. *Conference on Technology & Sustainability in the Built Environment*. (2010). King Saud University. 305-324.
- Boyko, C. T. (2000). The Influence of Architectural Detailing, Massing, and Design Interest on the Evaluation of Heritage and Historic Urban Streetscapes. Master Desertation. University of Manitoba.
- Boyle, J. A. A. (2012). *Persia (RLE Iran A): History and Heritage*. New York. Routledge.
- Brace, P. (1980). Urban Aesthetics and the Courts-A Review of Current Judicial Opinions on Community Appearance. *Urb. Law.*, 12, 151.
- Brolin, B. (1980). *Architecture In Context.*, New York, Van Nostrand Reinhold Company.
- Brown, T. C. & Daniel, T. C. (1987). Context Effects in Perceived Environmental Quality Assessment: Scene Selection and Landscape Quality Ratings. *Journal of Environmental Psychology*, 7, 233-250.
- Bryman, A. (2012). *Social Research Methods*. New York.OUP Oxford.
- Byard, P. S. (2005). *The Architecture of Additions: Design and Regulation*. New York. WW Norton & Company.
- Cabe. (2001). *Building in Context New Development in Historic Areas*, Wiltshire, English Heritage.
- Campbell, D. T. & Fiske, D. W. (1959). Convergent and Discriminant Validation by the Multitrait-Multimethod Matrix. *Psychological Bulletin*, 56, 81.

- Cheng, C. K. (2007). *Understanding Visual Preferences for Landscapes: An Examination of the Relationship between Aesthetics and Emotional Bonding*. Doctoral dissertation. Texas: Texas A&M University.
- Chon, J. H. (2004). *Aesthetic Responses to Urban Greenway Trail Corridors: Implications for Sustainable Development in Tourism and Recreation Settings*. Doctoral Dissertation. Texas a&m University.
- Chon, J, Shafer, S, C. (2009). Aesthetic Responses to Urban Greenway Trail Environments. *Landscape Research*, 34, 83-104.
- Clarke, J. I. (1963). *The Iranian City of Shiraz*. Durham. Department of Geography, University of Durham.
- Cohen, L. (2007). *Research Methods in Education*. New York. Routledge Falmer.
- Cohen, S. (1987). Contextualism: From Urbanism to a Theory of Appropriate Form, *Inland Architect* (May/June): 68-69.
- Corbusier, L. (1931). *Towards a New Architecture*. New York. Courier Dover Publications.
- Costonis, J. J. (1989). *Icons and aliens: Law, aesthetics, and environmental change*. Urbana: University of Illinois.
- Creswell, J. W. (2009). *Research Design: Qualitative, Quantitative, and Mixed Methods Approaches*. New York. Sage Publications, Inc.
- Crumplar, T. (1974). Architectural Controls: Aesthetic Regulation of the Urban Environment. *Urb. Law.*, 6, 622.
- Curran, R. J. (1983). *Architecture and the Urban Experience*. New York. Van Nostrand Reinhold Company.
- Da Luz Reis, A. T. & Dias Lay, M. C. (2010). Internal and External Aesthetics of Housing Estates. *Environment and Behavior*, 42, 271-294.
- Daniel, T. C. (2001). Whither Scenic Beauty? Visual Landscape Quality Assessment in the 21st Century. *Landscape and Urban Planning*, 54, 267-281.
- Davies, M. (2003). Design in the Historic Environment. *Building and Environment*. Availabel: <http://www.buildingconservation.com/articles/design/design.htm>
- Davis, G. & Ayers, V. (1975). Photographic Recording of Environmental Behavior. *Behavioral Research Methods in Environmental Design*. New York: Dowden, Hutchinson and Ross, 235-279.

- De Vaus, D. A. (2002). *Surveys in Social Research*. (5th ed). Crows Nest. Allen and Unwin.
- Downs, R. & Stea, D. (1973). Cognitive Representations. *Image and Environment*, Chicago: Aldine (79-86).
- Edwards, A. T. (1946). *Good and Bad Manners in Architecture*. London. J. Tiranti.
- Einhorn, H. J. and Hogarth, R. M. (1981). Behavioral Decision Theory: Processes of Judgment and Choice. *Annual Review of Psychology*, 32, 53-88.
- Eleishe, A. M. (1994). *Contextualism in Architecture*, Doctoral Desertation. The University of Michigan.
- English Heritage. (2006). *Guidance on the Management of Conservation Areas*. London. English Heritage.
- Erder, C. (1986). *Our Architectural Heritage: from Consciousness to Conservation*. Paris. Unesco.
- Falamaki, M. (2005). *Across through Urban Regeneration Experiences*, Tehran: Scientific and Cultural Institute of Faza Publication. 70-75.
- Ferdous, F. (2013). Examining the Relationship between Key Visual Characteristics of Urban Plazas and Aesthetic Response." *Sage Open*, 3, 2, 1-10.
- Fitch, J. M. (1998). *Historic Preservation: Curatorial Management of the Built World*. Virginia. University of Virginia Press.
- Flick, U. (2009). *An Introduction to Qualitative Research*. (4th ed). London. Sage Publications.
- Friedmann, A., Zimring, C. & Zube, E. H. (1978). *Environmental Design Evaluation*. Plenum Press.
- Gaines, M. C. (1980). Teaching a Contextual Architecture. *JAE*, 33, 21-26.
- Gifford, R., Hine, D. W., Muller-Clemm, W., Reynolds, D. A. J. & Shaw, K. T. (2000). Decoding Modern Architecture. *Environment and Behavior*, 32, 163.
- Gifford, R., Hine, D. W., Muller-Clemm, W. & Shaw, K. T. (2002). Why Architects and Laypersons Ge Buildings Differently: Cognitive Properties and Physical Bases. *Journal of Architectural and Planning Research*, 19, 131.
- Gieryn, T. F. (2000). A space for place in sociology. *Annual Review of Sociology*, 26, 463-496.

- Gjerde, M. (2010). Visual Aesthetic Perception and Judgement of Urban Streetscapes. In: W101-Special Track 18th CIB World Building Congress May 2010 Salford, United Kingdom. p 12.
- Ghadiri, B. (2007). *New Structures in Historic Areas*. Tehran. Office of Cultural Research.
- Goldman, A. H. (1995). *Aesthetic Value*. New York. Westview Press Boulder.
- Golledge, R. G. & Stimson, R. J. (1996). *Spatial Behavior: A Geographic Perspective*. New York. Guilford Press.
- Goodman, N. (1976). *Languages of Art: An Approach to a Theory of Symbols*. Indiana. Hackett Publishing Company.
- Graves, M. & Wolf, G. (1980). Beyond Mere Manners and Cosmetic Compatibility. in: *Old and New Architecture: Design Relationship*, P. 69-78. 17 ILLUS.
- Groat, L. (1983). Measuring the Fit of New to Old. *Architecture*. November 72. 58-61.
- Groat, L. (1988). Contextual Compatibility in Architecture: An Issue of Personal Taste. *Environmental Aesthetics: Theory, Research, and Applications*, 228-253.
- Groat, L. & Canter, D. (1979). Does Post-Modernism Communicate. *Progressive Architecture*, 12, 84-87.
- Groat, L. N. (1986). Contextual Compatibility in Architecture: An Investigation of Non Designers' Conceptualizations. *Wisconsin, Milwaukee: The School of Architecture & Urban Planning, The University of Wisconsin*.
- Groat, L.N. (1987). Contextual Compatibility: An Issue of Composition, Not Replication. *Paper Presented at the Association of Collegiate Schools of Architecture*, Los Angeles, March.
- Groat, L. N. (1992). Challenges to Design Review: Complexities and Contradictions in Lay Perceptions of Compatibility Among Buildings. In *Proceedings of the International Symposium on Design Review*. University of Cincinnati October 8.11.1992. Cincinnati, Ohio: University of Cincinnati. pp. 79-90
- Gorski, E. E. & Cuvalo, D. (2009). Case Studies in 'Quality' Infill Design, *Design and Historic Preservation*, 17-28.
- Groves, R. M. (2004). *Survey Errors and Survey Costs*. New York. Wiley-Interscience.

- Guest, G., Emily E. N., Marilyn L. M., (2012) *Collecting Qualitative Data: A Field Manual for Applied Research*, London, SAGE Publications.
- Gutman, J. & Reynolds, T. (1988). Laddering Theory-Analysis and Interpretation. *Journal of Advertising Research*, 28, 11.
- Habibi. M. (2002). *Urban Regeneration*. Tehran. Tehran University Publication.
- Hair, J. F., Anderson, R. E., Tatham, R. L. & William, C. (1998). *Multivariate Data Analysis*. New Jersey. Prentice Hall.
- Hanachi, P. & Fadaei Nezhad, S. (2011). Conservation And Development Policies Of Historic Areas In Iran. *S.A.V.E Heritage*. 9-11 June, Italy.
- Hanachi, P. Fadaei Nezhad. S (2010). Urban Physical And Social Transformation In Heritage Districts : Case Study of Shiraz- Iran. *14th Iphs Conference*. Istanbul-ITU.12-15 July.
- Harloff, J. & Coxon, A. (2005). How to Sort. A Short Guide on Sorting Investigations. Version.
- Hassanuddin Lamit. (2003). *A Comparative Analysis of Perception of Urban Landmarks Between Designers, Non-Designers and Laypublic: Kuala Lumpur, Malaysia*. Doctoral Desertation. University of Sheffield.
- Fars Cultural Heritage organization, (2010), *Summary of Legislation of Construction in Valuable Historical Context*. Shiraz. The Ministry of Housing and Urbanism.
- Hershberger, R. G. (1988). *A Study of Meaning and Architecture*. Pennsylvania. University of Pennsylvania.
- Herzog, T. R., Hayes, L. J., Applin, R. C. & Weatherly, A. M. (2011). Compatibility: An Experimental Demonstration. *Environment and Behavior*, 43, 90.
- Herzog, T. R. & Shier, R. L. (2000). Complexity, age, and Building Preference. *Environment and Behavior*, 32, 557-575.
- Hershberger, R. (1969). *A Study or Meaning and Architecture*. University of Pennsylvania. Doctoral desertation. Ann Arbor, Michigan: University Microfilms, Inc.
- Hershberger, R. (1988). *A Study of Meaning and Architecture*. In Jack L. Nasar (ed.) *Environmental Aesthetics*. 175-194. Edited by. Camhridge, Mass. Camhridge University Press.

- Hidalgo, M. C., & Hernandez, B. (2001). Place attachment: Conceptual and empirical questions. *Journal of Environmental Psychology*, 21, 273–281.
- Hillier, B. (2007). *Space is the Machine: a Configurational Theory of Architecture*. Cambridge. Cambridge University Press.
- Hsieh, H. F. & Shannon, S. E. (2005). Three Approaches to Qualitative Content Analysis. *Qualitative Health Research*, 15, 1277-1288.
- Hubbard, P. J. (1996). *Attitudes to Redevelopment in Birmingham's City Centre: An Examination of Architectural Interpretation*. Doctoral desertation. Birmangam. University of Birmingham.
- ICOMOS, A. (1999). *The Burra Charter: the Australia ICOMOS Charter for Places of Cultural Significance*, Australia. ICOMOS.
- International Charter for the Conservation and Restoration of Monuments and Sites (The Venice Charter). Venice: ICOMOS,(1964). ICOMOS, Paris.
http://www.international.icomos.org/charters/venice_e.htm
- Izard, C. E. 1977. *Human emotions*. Netherland. Springer.
- Jencks, Charles. (1977). *The Lannguage of Post Modern Architecture*, New York. Rizzoli.
- Jenkins, P. F., Leslie (2009). *Architecture, Participation and Society*. Abingdon. Routledge.
- Johansson, R. (2004). Case Study Methodology. In *Proceedings of the International Conference Methodologies in Housing Research*. 23 September. Sydney. 22-24.
- Johansson, R. (2004). *Theory of Science and Research Methodology*. Stockholm. Royal Institute of Technology. Department of Infrastructures.
- Kalaiselvi, S. (2009). *Financial Performance in Software Industry*. New Delhi. Discovery Publishing House.
- Kaplan, S. (1979). Visual Resources and the Public. *An Empirical Approach*. In: *Proceedings of Our National Landscape: A Conference on Applied Techniques for Analysis and Management of the Visual Resource*. Aprial 23-25. Incline Village, Nevada.
- Kaplan, R. & Kaplan, S. (1989). *The Experience of Nature: A Psychological Perspective*. Cambridge. Cambridge University Press.

- Kaplan, R., Kaplan, S. & Ryan, R. (1998). *With People in Mind: Design and Management of Everyday Nature*. Washington DC. Island Press.
- Kaplan, S. (1973). Cognitive Maps in Perception and Thought. *Image and Environment: Cognitive Mapping and Spatial Behavior*, 63-78.
- Kaplan, S. (1982). Where Cognition and Affect Meet: A Theoretical Analysis of Preference. *EDRA: Environmental Design Research Association*. 13. 183-188.
- Kaplan, S. (1987). Aesthetics, Affect, and Cognition Environmental Preference from an Evolutionary Perspective. *Environment and Behavior*, 19, 3-32.
- Kaplan, S. (1988). Perception and Landscape: Conceptions and Misconceptions. *Environmental Aesthetics: Theory, Research, and Application*, 45-55.
- Kaplan, S. & Kaplan, R. (1982). *Cognition and Environment: Functioning in an Uncertain World*. Santa Barbara. Praeger.
- Kaplan, R., & Herbert, E. J. (1987). Cultural and Sub-Cultural Comparisons in Preferences for Natural Settings. *Landscape and Urban Planning*, 14, 281-293.
- Karimi, K. (1997). The Spatial Logic of Organic Cities in Iran and the United Kingdom. In: *The Proceedings of the First International Symposium on Space Syntax*. 6.1-17.
- Karimi, K. (2002). Iranian Organic Cities Demystified: A Unique Urban Experience or an Organic City Like Others. *Built Environment*. 28.
- Karmanov, D. (2009). *Feeling the Landscape: Six Psychological Studies into Landscape Experience*. Doctoral Dissertation. Wageningen Universiteit.
- Kasmar, J. V. (1970). The Development of a Usable Lexicon of Environmental Descriptors. *Environment and Behavior*. 2 (2). 153-169
- Kline, R. B. (2010). *Principles and Practice of Structural Equation Modeling*. New York. Guilford Press.
- Kondracki, N. L., Wellman, N. S. & Amundson, D. R. (2002). Content Analysis: Review of Methods and Their Applications in Nutrition Education. *Journal of Nutrition Education and Behavior*, 34, 224-230.
- Korpela, K. M., Hartig, T., Kaiser, F. G. & Fuhrer, U. (2001). Restorative Experience and Self-Regulation in Favorite Places. *Environment and Behavior*, 33, 572-589.

- Kranser, L. (ED) (1980). *Environmental Design and Human Behavior - A Psychology of Individual in Society*. New York. Pergamon Press.
- Krejcie, R. V. & Morgan, D. W. (1970). Determining Sample Size for Research Activities. *Educ Psychol Meas.* 30. 607-610.
- Kuller R (1979) A Semantic Test for Use in Cross-Cultural Studies. *Man-Environment Systems.* 9:253- 256.
- Kumar, R. (2010). *Research Methodology: A Step-by-Step Guide for Beginners*, London. Sage Publications Ltd.
- Lang, J. (1987). *Creating Architectural Theory: The Role of the Behavioral Sciences in Environmental Design*. New York. Van Nostrand Reinhold.
- Lang, J. (1988). *Symbolic Aesthetics in Architecture: Toward a Research Agenda*. In J.L. Nasar (Ed.), *Environmental Aesthetics: Theory, Research, and Application*, (45-55). New York : Cambridge University Press
- Lansing, J. B., Marans, R. W. & Zehner, R. B. (1970). *Planned Residential Environments*. Michigan. Inst for Social Research.
- Lawless, R. (1980). *The Future of Historic Centres: Conservation or Redevelopment?* ed Lawless. (178-208). *The Changing Middle Eastern City*. London. Croom Helm.
- Lekagul, A. (2002). *Toward Preservation of the Traditional Marketplace: A Preference Study of Traditional and Modern Shopping Environments in Bangkok, Thailand..* Doctoral Desertation. Thailand. Virginia Polytechnic Institute and State University.
- Lichtenstein. S. and Siovic, P. (1980). Reversals of Preference between Bids and Choices in Gambling Decisions. *Journal of Expcrimental Psychology*, 89, 46-55.
- Limbert, J. & Limbert, J. W. (2004). *Shiraz in the Age of Hafez: The Glory of a Medieval Persian city*. Washington. University of Washington Press.
- Lockhart, L. (1939). *Famous Cities of Iran*. Northampton. W. Pearce & Co.
- Lothian, A. (1999). Landscape and the philosophy of Aesthetics: Is Landscape Quality Inherent in the Landscape or in the Eye of the Beholder? *Landscape and Urban Planning*, 44, 177-198.

- Low, S. M. (1992). Symbolic ties that bind: Place attachment in the plaza. In I. Altman & S. M. Low (Eds.), *Place attachment*. New York: Plenum Press. 165-185
- Lynch, K. (1960). *The Image of the City*. Cambridge. MIT press.
- Lynch, K. (1981). *A Theory of Good City form*. Cambridge MIT Press.
- Lynch, K. (2012). Reconsidering the Image of the City. *Cities of the Mind*. Michigan. University of Michigan Press.
- Mahdavinejad, M. J. (2007). *New Architecture in Valuable Context*. Doctoral Desertation. University of Tehran.
- Malhotra, N. K. & Peterson, M. (2006). Basic Marketing Research, a Decision Making Approach. *Cell*. 202, 550-606.
- Markwell, K. (2008). Photo-Documentation and Analyses as Research Strategies in Human Geography. *Australian Geographical Studies*, 38, 91-98.
- Martella, R. C., Nelson, R. & Marchand-Martella, N. E. (1999). *Research Methods*. Boston. Allyn & Bacon.
- Mashai, R. (2005). Islamic Nations Prioritized in Tourism Investment. *Iran Daily*. December 28.
- Mathison, S. (1988). Why triangulate? *Educational Researcher*, 17, 13-17.
- Merriam, S. B. (1998). *Qualitative Research and Case Study Applications in Education. Revised and Expanded from Case Study Research in Education*. Texas. Jossey-Bass.
- Mitchell, E. S. (1986). Multiple Triangulation: a methodology for Nursing Science. *Advances in Nursing Science*. 8 (3). 18-26
- Moore, G.T. (1989). Environmental and behavior Research in North America: History, Development, and Unresolved Issues. In D. Stokols & I. Altman (Eds.), *Handbook of Environmental psychology* (1359-1410). New York: John Wiley.
- Moughtin, C. (2003). *Urban design: Street and Square*. London. Routledge.
- Movahed, K. (2006). The Mechanism of Transformation of Shiraz City from Past to Present. *42nd ISoCaRP Congress*. 14-18 September. Istanbul.
- Naghshe-Jahan_Pars Consultants, (2007), *Summary of the Report on the Comprehensive Master Plan of Shiraz*. Shiraz. The Ministry of Housing and Urbanism.

- Nasar, J. L. (1983). Adult Viewers' Preferences in Residential Scenes: A Study of the Relationship of Environmental Attributes to Preference," *Environment and Behavior* 15 (5). 589-614.
- Nasar, J. L. (1988). *Perception and Evaluation of Residential Street Scenes*. In J.L. Nasar(Ed.), *Environmental Aesthetics* (pp.275-289). Cambridge. Cambridge University Press.
- Nasar, J. L. (1992). *Environmental Aesthetics: Theory, Research, and Application*. Cambridge. Cambridge University Press.
- Nasar, J. L. (1994). Urban Design Aesthetics. *Environment and Behavior*, 26, 377.
- Nasar, J. L. (1997). New developments in Aesthetics for Urban Design. *Advances in Environment, Behavior, and Design*. 4, 149.
- Nasar, J.L. (1998). *The Evaluative Image of the City*. London. Sage Publications.
- Nasar, J. L. & Hong, X. (1999). Visual Preferences in Urban Signscapes. *Environment and Behavior*, 31, 671-691.
- Norberg-Schulz, C. (1965). *Intentions in Architecture*. Cambridge . MIT Press.
- Norberg-Schulz, C. (1980). *Genius Loci, Towards a Phenomenology of Architecture*. New York. Rizzoli.
- Norsidah Ujang. (2010). Place Attachment and continuity of Urban Place Identity. *Asian Journal of Environment-Behaviour Studies*. 1 (2), 61-76.
- N. S. W. H. & R. A. I. O. A. N. (2005). *Design in Context: Guidelines for Infill Development in the Historic Environment*. Wales. New South Wales Heritage Office.
- Nuffida, N.E,. (2004). Refiguring Tradition : Aesthetic Experience, Built Environment and The Roots of Cultural Heritage Comprehension Through Bagas Godang Mandailing as A Case Study. *The 5th International Seminar On Sustainable Environmental Architecture*. Malaysia.UTM (December 2004)
- O'Connor, Z. (2008). *Facade Colour and Aesthetic Response: Examining Patterns of Response within the Context of Urban Design and Planning Policy in Sydney*. Doctoral dissertation. The University of Sydney.
- Offredy, M. & Vickers, P. (2010). *Developing a Healthcare Research Proposal: An Interactive Student Guide*. New Jersey. Wiley-Blackwell.

- Olascoaga, J. F. (2003). *Development of a New Approach for Appraising the Aesthetic Quality of cities*. Doctoral Dissertation. Texas Tech University.
- Oppenheim, A. N. (2000). *Questionnaire Design, Interviewing and Attitude Measurement*. London. Continuum.
- Orum, A. M., Feagin, J. R. & Sjoberg, G. (1991). *Introduction: The Nature of the Case Study*. In ed by Feagin. R. J, Rum. M. A, Sjoberg, G. *A Case for the Case Study*. (1-26). North Carolina. The university of north Carolina press.
- Osgood, C. E., Suci, G. J. & Tannenbaum, P. (1967). *The Measurement of Meaning*. Indiana. University of Illinois Press.
- Overby, O. (1980). Old and New Architecture: A History. *Old And New Architecture*. 36. 18-36.
- Pardaraz Consultant Engineers. (2006). *The Revision Plan for Shiraz Historic Core, Urban Management and Participation*. Shiraz Shiraz Municipality.
- Patton, M. Q. (2001). *Qualitative Research & Evaluation Methods*. London. Sage Publications.
- Pennartz, P. J. J. & Elsinga, M. G. (1990). Adults, Adolescents, And Architects Differences in Perception of the Urban Environment. *Environment and Behavior*, 22, 675-714.
- Perry, J., Avery, P., Hambly, G. & Melville, C. (1991). The Zand Dynasty. *The Cambridge History of Iran*, 7, 63-103.
- Polit, D. (2001). *Essentials of Nursing Research. Methods, Appraisal and Utilization*. Philadelphia: Lippincott.
- Prak, N. L. (1977). *The Visual Perception of the Built Environment*, Lansdale. Delft University Press.
- Preservation Alliance for Greater Philadelphia, (2007). *Sense of place: design guidelines for new construction in historic districts*, Philadelphia: PAGP.
- Purcell, T., Peron, E., & Berto, R. (2001). Why Preferences Differ Between Scene Types? *Environment and Behavior*, 33(1), 93-106.
- Rapoport, A. (1990). *The Meaning of the Built Environment: A Nonverbal Communication Approach*. Tucson. University of Arizona Press.
- Reis, A. (2002). Housing Appearance as an Indicator of Housing Quality. *Proceedings of the 32 Conference of the Environmental Design Research Association* (Vol. 1, pp. 68-74). Edinburgh: EDRA.

- Robinson, K. W. (2009). *The moral significance of environmental aesthetics and its importance in environmental decision making and policy setting*. Doctor of Philosophy, University of South Carolina.
- Rodrigues, M. S. M, Lay. C. D. PP. (2012). Perception and Evaluation of Visual Quality of the Urban Landscape in Historic Areas. In: *ICCROM, Measuring Heritage Conservation Performance*. Rome. In Zancheti, S. M. & K. Similä, eds., 90-101.
- Rossi, A. (1982). *The Architecture of the City*. Cambridge, MA: MIT Press.
- Ruskin, J. (1989). *The Seven Lamps of Architecture*, New York, Dover Publications, Inc.
- Russell, J. A. & Snodgrass, J. (1987). Emotion and the Environment. *Handbook of Environmental Psychology*, 1, 245-280.
- Russell, J.A. (1988). *Affective Appraisals of Environments*. In J.L. Nasar (Ed.), *Environmental Aesthetics* (pp.120-129). Cambridge: Cambridge University Press.
- Russell, J.A. & Snodgrass, J. (1989). *Emotion and Environment*. In D. Stokols & I. Altman (Eds.), *Handbook of Environmental Psychology* (pp.245-280). New York: Wiley.
- Sandalack, B. A. (1998). *Continuity of History and Form: The Canadian Prairie Town*. Headington. Oxford Brookes University.
- Sanoff, H. (1991). *Visual Research Methods in Design*. New York. Van Nostrand Reinhold.
- Scruton, R. 1984. Public Space and the Classical Vernacular. *The Public Interest*, 74, 5-16.
- Semes, Steven W. (2007). Differentiated' and 'Compatible': Four Strategies for Additions in Historic Settings, *Sense of place: Design guidelines for New construction in Historic districts*, Preservation Alliance for Greater Philadelphia, 4-11.
- Semes, S. W. (2008). New Buildings Among Old Historicism and the Search for an Architecture of Our Time. *American Arts Quarterly*. Available in: <http://www.nccsc.net/legacy/new-buildings-among-old>
- Semes, S. W. (2009). *The Future of the Past: a ethic Conservation for Architecture, Urbanism, and Historic Preservation*. New York. WW Norton & Co.

- Shuhana Shamsuddin. (1997). *Identity of Place: a Case Study of Kuantan Town Centre, Malaysia*. Doctoral Disertation. University of Nottingham.
- Shuhana Shamsuddin. and Norsidah Ujang (2008). Making places: The role of attachment in creating the sense of place for traditional streets in Malaysia. *Habitat International*. 32(3): 399-409.
- Shane, G. (1976). Contextualism. *Architectural Design*, 46, 676-769.
- Silverman, D. (2011). *Interpreting Qualitative Data*. London. Sage Publications.
- Singleton, R. A. & Bruce, C. S. (2005). *Approaches to Social Research*. New York: Oxford University Press.
- Skrivanova, Z. and Kalivoda. O. E. (2010). Perception and Assessment of Landscape Aesthetic Values in the Czech Republic- a Literature Review. *Journal of Landscape Studies*. 3. 211-220.
- Smith, C. P. (2000). Content Analysis and Narrative Analysis. *Handbook of Research Methods in Social and Personality Psychology*. 313-335.
- Smith, P. (1977). *The Syntax or Cities*. London. Hutchinson & Co. Ltd.
- Snyder, M. R. (2008). The Role of Heritage Conservation Districts in Achieving Community Improvement. Master of Arts. Ontario, University of Waterloo.
- Stamps, A. E. (1999). Physical Determinants of Preferences for Residential Facades. *Environment and Behavior*, 31, 723-751.
- Statistical Center of Iran. (2007). *Iran Statistical Yearbook*. Tehran. Organization of Sensus Center.
- Stedman, R. C. (2003). Is it really just a social construction? The contribution of the physical environment to sense of place. *Society & Natural Resources*, 16, 671-685.
- Strauss, A. & Corbin, J. (2007). *Basics of Qualitative Research: Techniques and Procedures for Developing Grounded Theory*. London. Sage Publications.s
- Tabachnick, B.G. & Fidell, L. S. (2001). *Computer-Assisted Research Design and Analysis*. Boston. Boston. Allyn and Bacon.
- Tania Modesto Veludo-de-Oliveira, A. A. I., & Marcos Cortez Campomar. (2006). Discussing Laddering Application by the Means-End Chain Theory. *The Qualitative Report*, 11(4), 626-642.
- Tavasoli, M. & Bonyadi, N. (1992). *City Space Designing*, 1st edn, Urban Planning and Architectural Research Center of Iran Press, Tehran, vol.1

- Taylor, J. G., Zube, E. H. & Sell, J. L. (1987). Landscape assessment and Perception Research Methods. *Methods in Environment and Behavioral Research*. 361-393.
- Thurmond, V. A. (2004). The point of Triangulation. *Journal of Nursing Scholarship*, 33, 253-258.
- Torres, Z. N. G. (2009). *Historic Buildings and Contemporary Additions: The Elements of a Cohesive Design Relationship*. Master Disertation. University of Maryland.
- Tullis, T. & Wood, L. (2004). *How many Users are Enough for a Card-Sorting study*. Poster Presented at the Annual Meeting of the Usability Professionals Association. June 10-12. Minneapolis. MN.
- Tuttle, D. (1983). *Suburban Fantasies*. Unpublished Master's Thesis. Milwaukee. University of Wisconsin.
- Tyler, N., Ligibel, T. & Tyler, I. R. (2009). *Historic Preservation: An Introduction to Its History, Principles, and Practice*. New York. WW Norton & Company.
- Ulrich (1986). Human Responses to Vegetation and Landscapes. *Landscape and Urban Planning*. 13, 29-44.
- UNESCO. (1999). Operational Guidelines for the Implementation of the World Heritage Convention. World Heritage Committee, Paris. Available in : <http://whc.unesco.org/archive/opguide05-en.pdf>
- UNESCO. (2003). Convention for the Safeguarding of the Intangible Cultural Heritage. *32nd Session of the General Conference*, Paris, 29 September–17 October.
- UNESCO, Cultural Heritage News Agency. (2006). Shiraz to be Registered in UNESCO's City of Literature. Retrieved April 1, 2010, from <http://www.payvand.com/news/06/feb/1088.html>
- UNESCO World Heritage Centre. (2005). *The world heritage Newsletter*. July, 49. [http://preservapedia.org/Vienna_Memorandum_on_%22World_Heritage_and_Contemporary_Architecture_Managing_the_Historic_Urban_Landscape%](http://preservapedia.org/Vienna_Memorandum_on_%22World_Heritage_and_Contemporary_Architecture_Managing_the_Historic_Urban_Landscape%22)

- US/ICOMOS. (2011). Respecting the Value of Context. *Report on 14th US/ICOMOS International Symposium*. Washington, Dc and Richmond. June 2-4.
- Van Teijlingen, E. & Hundley, V. (2001). The Importance of Pilot Studies. *Social research update*, 1-4.
- Venturi, R., Brown, D. S. & Izenour, S. (1977). *Learning from Las Vegas, Revised Edition: The Forgotten Symbolism of Architectural Form*. Cambridge. MIT press.
- Vitruvius, P. & Morgan, M. H. (1960). *The Ten Books on Architecture*. New York. Dover Publications.
- Volker, L. (2010). *Deciding about Design Quality: Value judgements and decision making in the Selection of Architects by Public Clients Under European Tendering Regulations*. Leiden. Sidestone Press.
- Von Meiss, P. (1990). *Elements of Architecture*. Abingdon. Spon Press.
- Vosmek, M. H. (2008). *Preserving Change, Changing How We Preserve: A Temporal Approach to Infill Architecture in an Historic Arts District*. Ann Arbor. ProQuest.
- Wan Mohd Zakri Wan Abdullah. (2008). *Appropriate Urban Public Open Space*. Doctoral Dissertation. Johor Bahru Univ. Teknologi Malaysia (UTM).
- Warren, J., Worthington, J. & Taylor, S. (1998). *Context: New Buildings in Historic Settings*. Waltham. Butterworth-Heinemann.
- Warwick, D. P. & Lininger, C. A. (1975). *The Sample Survey: Theory and Practice*. New York. McGraw-Hill.
- Weber, R. (1995). *On the Aesthetics of Architecture: a Psychological Approach to the Structure and the Order of Perceived Architectural Space*. Wiltshire. Avebury.
- Weber, R. P. (1990). *Basic Content Analysis*. London. Sage Publications.
- Weeks, K. D. & Grimmer, A. E. (1995). *The Secretary of the Interior's Standards for the Treatment of Historic Properties: With Guidelines for Preserving, Rehabilitation, Restoring & Reconstructing Historic Buildings*. Darby: Diane Publishing.
- Wheeldon, J. (2010). Mapping Mixed Methods Research: Methods, measures, and meaning. *Journal of Mixed Methods Research*, 4, 87-102.

- Wells, J. C. (2007). The plurality of Truth in Culture, Context, and Heritage: a (Mostly) Post-Structuralist Analysis of Urban Conservation Charters. *City and Time*, 3(2:1), 1-13.
- Whitfield, A. & Wiltshire, J. (1995). Design Training and Aesthetic Evaluation: An Intergroup Comparison. *Journal of Environmental Psychology*, 2, 109-117.
- Wiesehofer, J. (1999). *Fars ii. History in the Pre-Islamic Period*. EncIr. Available in: <http://www.iranicaonline.org/articles/fars-ii>
- Wilber, D. N. (1975). *Iran, Past And Present*. Princeton: Princeton University Press.
- Wittkower, R. (1971). *Architectural Principles in the Age of Humanism*. New York: WW Norton & Company.
- Wohlwill, J. F. (1974). The Place of Aesthetics in Studies of the Environment. In: Symposium on Experimental Aesthetics and Psychology of the Environment, International Congress of Applied Psychology, Montreal.
- Wohlwill, J. F. (1982). The Visual Impact of Development in Coastal Zone Areas. *Coastal Management*, 9, 225-248.
- Wolford, J. N. (2005). *Architectural Contextualism in the Twentieth Century, with Particular Reference to the Architects e. Fay Jones and John Carl Warnecke*. Doctoral Disertation. Georgia. Georgia Institute of Technology.
- Woods, J. D. (1995). *Environmental Factors that Influence Preference and Price Perceptions of Commercial Landscapes and Storefronts*. Doctoral disertation. Virginia Polytechnic Institute and State University.
- Yan, X. W. (1996). Carrying Forward Heritage: A Review of Contextualism in New Construction in Beijing. *Journal of Architectural Education*, 115-126.
- Yang, B. E. & Brown, T. J. (1992). A Cross-Cultural Comparison of Preferences for Landscape Styles and Landscape Elements. *Environment and Behavior*, 24, 471-507.
- Yin, R. K. (2008). *Case study research: Design and Methods*. London: Sage Publications.
- Zhang, Y. & Wildemuth, B. M. (2009). Qualitative Analysis of Content. *Applications of Social Research Methods to Questions in Information and Library Science*, 308-319.
- Zube, E.H., Sell, J.L., & Taylor, J.G. (1982). Landscape Perception: Research, Application, and Theory. *Landscape Planning*, 9, 1-33.